

WHAT IS CLAIMED IS:

1. A propellant for internal combustion-operated tools, based on combustible gases containing a lubricant, characterized in that it contains, as lubricant, at least one of an isoparaffin and a synthetic oil based on esters or poly- α -olefins with a boiling point ranging from 120° to 250°C.

2. The propellant of claim 1, wherein the esters or the poly- α -olefins have a boiling point ranging from 185° to 200°C.

3. The propellant of claim 1, characterized in that it contains at least one branched isomer of an alkane with 9 to 16 carbon atoms as isoparaffin.

4. The propellant of claim 3, wherein the at least one branched isomer of an alkane has from 10 to 14 carbon atoms.

5. The propellant of claim 2, characterized in that it contains a mixture of branched isomers of alkanes with 9 to 16 carbon atoms as isoparaffin.

6. The propellant of claim 5, wherein the mixture of branched isomers of alkanes has 10 to 14 carbon atoms.

7. The propellant of claim 5, characterized in that it contains a mixture of not more than 50% by weight of branched C₉-C₁₂ alkanes and not less than 50% by weight of branched C₁₀-C₁₄ alkanes as isoparaffin.

8. The propellant of claim 1, characterized in that the isoparaffin, used as lubricant, has a boiling point range from 185° to 200°C, a vapor pressure at 20°C of less than 1 kPa, a density at 15°C of 768 kg/m³, a melting point of -50°C, an evaporation energy of 267 kJ/kg, a specific heat capacity cp 20 of 2.028 kJ/kg/°K, and a specific heat capacity of vapor of 1.70 kJ/kg/°K.

9. The propellant of claim 1, characterized in that it contains the lubricant in an amount of 0.01 to 15% by weight based on the total weight of propellant and lubricant.

10. The propellant of claim 9, wherein the lubricant is contained in an amount of .5 to 1.5% by weight

11. The propellant of claim 1, characterized in that the propellant includes at least one representative of the group consisting of propane, n-butane, isobutane, propylene, propadiene, dinitrogen monoxide, nitromethane, dimethyl ether and methylacetylene.

nitrous oxide

~~12. The propellant of claim 1, characterized in that the propellant comprises a mixture of propane, butane, propylene, propadiene, and methylacetylene.~~

13. The propellant of claim 1, characterized in that the propellant comprises a mixture of (A) 40 to 70% by weight of dimethyl ether, dinitrogen monoxide and/or nitromethane, (B) 8 to 20% by weight of propylene, methylacetylene and/or propadiene and (C) 20 to 45% by weight of isobutane and/or n-butane.

~~14. A method of producing a propellant containing as a lubricant, at least one of isoparaffin and synthetic oil based on esters or poly- α -olefins with a boiling point ranging from 120° to 250°C, comprising the steps of charging a pressure tank with the lubricant in the required amount, introducing the propellant under pressure or in liquid form into the pressure tank, and mixing lubricant and propellant homogeneously by circulating the gas or by rotating or shaking the pressure tank.~~

~~15. The method of claim 14, characterized in that as an isoparaffin, at least one branched isomer of an alkane with 9 to 16 carbon atoms is used.~~

16. The method of claim 15, characterized in that the at least one branched isomer of an alkane with 10 to 14 carbon atoms is used.

17. The method of claim 15, characterized in that a mixture of not more than 50% by weight of branched C₉-C₁₂ alkanes and not less than 50% by weight of branched C₁₀-C₁₄ alkanes is used as lubricant.